UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,273	10/09/2003	Takamitsu Hase	023971-0315	5973

22428 7590 01/06/2005

FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER	
LE, DAVID D	

ART UNIT	PAPER NUMBER
3681	

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/681,273	HASE ET AL.	
	Examiner	Art Unit	
	David D. Le	3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 8-10* is/are rejected.

7)☒ Claim(s) *6 and 7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/09/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This is the first Office action on the merits of Application No. 10/681,273, filed on 09 October 2003. Claims 1-10 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:

- Information Disclosure Statement, received on 10/09/03
- Foreign Priority Document, received on 10/09/03

Specification

3. The disclosure is objected to because of the following informalities:

- Page 3, line 29, the word "pun" should be --put--.
- Page 13, line 7, "step S33" should be --step S31--.

Appropriate correction is required.

Claim Objections

4. Claims 9 and 10 are objected to because of the following informalities:

- Claim 9, line 11, the word "pun" should be --put--.
- Claim 10, line 10, the word "pun" should be --put--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 4 recites the limitation "wherein the controller is further arranged to prohibit correcting the air quantity when a brake system of the vehicle is put in an inoperative state." This limitation appears to conflict with the limitations as recited in the independent claim 1.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 4,938,199 to Sato et al.

Claims 1-5 and 9-10:

Sato (Figs. 1-6; column 1, line 45 – column 8, line 68) discloses a method for controlling the air-fuel ratio in internal combustion engines comprising:

- An internal combustion engine (5);

- A controller (being the control circuit 20) for performing a variety of functions including:
    - Detecting a deceleration of the engine on the basis of an engine speed (i.e., column 1, lines 61-64);
    - Correcting an air quantity supplied to the engine on the basis of the deceleration when the engine is decelerated (i.e., column 1, lines 66-68);
    - Prohibiting correcting the air quantity for a first predetermined time period from a moment when one of the following conditions occurs:
        - A state of an accelerator of the engine is changed from an operative state to an inoperative state (i.e., column 8, lines 28-52);
        - A gear shifting condition (i.e., column 8, lines 42-45); and
        - A clutch engagement condition of a clutch in a power transmitting system (i.e., column 2, lines 1-4).

    - Sato reference inherently teaches the canceling prohibiting the correction of the air quantity when a braking system of the vehicle is put in an operative state because it is not one of the prohibiting conditions as set forth above; and
    - Sato reference also inherently teaches wherein the control circuit 20 is arranged to prohibit correcting the air quantity when the deceleration of the engine is not detected.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 5,557,519 to Morita in view of Sato et al.

Claim 8:

Morita (Figs. 1-9; column 2, line 42 – column 6, line 67) discloses an apparatus for detecting the running resistance of a vehicle comprising:

- An engine speed detector (being the turbine input speed sensor 4) detecting an engine speed of the engine;
- An air quantity control device (being one of the functions of the engine control unit 16) controlling an air quantity supplied to the engine;
- An accelerator operation detector (being the throttle sensor 8) detecting an operating state of an accelerator (7) of the engine;
- A brake operation detector (being the brake switch 6) detecting that a brake pedal is depressed; and
- A controller (17) connected to the engine speed detector, the air quantity control device and the acceleration operation detector and a brake operation detector.

Morita does not explicitly teaches:

- Wherein the controller is arranged, to detect an engine deceleration on the basis of a variation of the engine speed, to control the air quantity on the basis of the engine deceleration, to prohibit correcting the air quantity when one of first, second and third conditions is satisfied where the first condition is a condition that an elapsed time period from a moment of turning off of an accelerator of the engine is within a first predetermined time period, the second condition is a condition that an elapsed time period from a moment of turning off of a lockup clutch of a torque converter is within a second predetermined time period, and the third condition is a condition that a shifting of a transmission connected to the engine is executed, and to cancel prohibiting the correction of the supplied air quantity when a braking operation is executed.

Sato (Figs. 1-6; column 1, line 45 – column 8, line 68), on the other hand, teaches a method for controlling the air-fuel ratio in internal combustion engines comprising a control circuit (20) for performing a variety of functions including:

- Detecting a deceleration of the engine on the basis of an engine speed (i.e., column 1, lines 61-64);
- Correcting an air quantity supplied to the engine on the basis of the deceleration when the engine is decelerated (i.e., column 1, lines 66-68);

- Prohibiting correcting the air quantity for a first predetermined time period from a moment when one of the following conditions occurs:
  - A state of an accelerator of the engine is changed from an operative state to an inoperative state (i.e., column 8, lines 28-52);
  - A gear shifting condition (i.e., column 8, lines 42-45); and
  - A clutch engagement condition of a clutch in a power transmitting system (i.e., column 2, lines 1-4).
- Sato reference inherently teaches the canceling prohibiting the correction of the air quantity when a braking system of the vehicle is put in an operative state because it is not one of the prohibiting conditions as set forth above.

It would have been obvious to one of ordinary skill in the art at the time this invention was made to modify Morita controller (17) to include the controlling of the air-fuel ratio when the engine is detected in a decelerated condition, in view of Sato, in order to provide a more optimal way of controlling the engine torque without stalling the engine due to the overlean air-fuel ratio.

Allowable Subject Matter

9. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hayashi (U. S. Patent No. 4,123,903) teaches a deceleration control system as shown in Fig. 1.

- Yamato et al. (U. S. Patent No. 4,508,074) teaches an intake air quantity control method for internal combustion engines.

- Hattori et al. (U. S. Patent No. 4,146,000) teaches airflow control system as shown in Fig. 1.

- Otobe et al. (U. S. Patent No. 4,491,115) teaches a method for controlling fuel supply to an internal combustion engine at deceleration.

- Nakawaki et al. (U. S. Patent No. 5,287,773) teaches an apparatus for controlling engine brake force during vehicle running on downhill with released accelerator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 703-305-3690. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DD
ddl

Charles A Marmor 1/4/05
CHARLES A. MARMOR
SUPERVISORY PATENT EXAMINER
ART UNIT 3681